

ABSTRACT

A drop-fill assembly and method for uniformly distributing electrode active particles onto a current collector is described. The drop-fill assembly comprises a conduit containing two or more spaced apart sifting screens. A funnel is located upstream of the sifting screens to distribute an electrode active powder into the center of the conduit with a downward velocity. The mesh of any one sifting screen is out of direct alignment with respect to the next or previous screen. The electrode active powder is poured into the funnel and distributed across the conduit's cross-section as it bounces off and passes through the misaligned sifting screens. The powder exits at the bottom of the conduit lying in a thin, uniform layer on a current collector, taking on the shape of the desired electrode due to the boundary of the conduit and pressing fixtures located above and beneath the current collector. The powder layer is then pressed on to the current collector to produce an electrode.